occasional papers of the

Farlow Herbarium of cryptogamic botany

No. 17 August, 1982 Harvard University, Cambridge, Massachusetts

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A Nomenclatural Revision of F.J. Seaver's North American Cup-Fungi (Operculates)

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ISSN: 0090-8754

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No. 1. **Sylvia A. Earle**: *Hummbrella*, a New Red Alga of Uncertain Taxonomic Position from the Juan Fernandez Islands (June 1969).

No. 2. **I. Mackenzie Lamb**: *Stereocaulon arenarium* (Sav.) M. Lamb, a Hitherto Overlooked Boreal-Arctic Lichen (June 1972).

No. 3. **Sylvia A. Earle and Joyce Redemsky Young**: *Siphonoclathrus*, a New Genus of Chlorophyta (Siphonales: Codiaceae) from Panama (July 1972).

No. 4. **I. Mackenzie Lamb, William A. Weber, H. Martin Jahns, Siegfried Huneck**: *Calathaspis*, a New Genus of the Lichen Family Cladoniaceae (July 1972).

No. 5. **I. Mackenzie Lamb**: *Stereocaulon sterile* (Sav.) M. Lamb and *Stereocaulon groenlandicum* (Dahl) M. Lamb, Two More Hitherto Overlooked Lichen Species (March 1973).

No. 6. **I. Mackenzie Lamb**: Further Observations on *Verrucaria serpuloides* M. Lamb, the Only Known Permanently Submerged Marine Lichen (April 1973).

No. 7. **Bruce H. Tiffney and Elso S. Barghoorn**: The Fossil Record of the Fungi (June 1974).

No. 8. **Donald H. Pfister**: The Genus *Acervus* (Ascomycetes, Pezizales). I. An Emendation. II. The Apothecial Ontogeny of *Acervus flavidus* with Comments on *A. epispartius* (May 1975).

No. 9. **Donald H. Pfister**: A Synopsis of the Genus *Pulvinula*. A New Combination in the Genus *Gymnomyces*. **Norton G. Miller**: Studies on North American Quaternary Bryophyte Subfossils. I. A New Moss Assemblage from the Two Creeks Forest Bed of Wisconsin (July 1976).

No. 10. **Emmanuel Sérusiaux**: Some Foliicolous Lichens from the Farlow Herbarium (August 1976).

Continued on back cover

A NOMENCLATURAL REVISION OF F.J. SEAVER'S NORTH AMERICAN CUP-FUNGI (OPERCULATES)

DONALD H. PFISTER

The North American Cup-fungi (Operculates) (Seaver 1928) has been a standard reference for more than 50 years. It was revised by Seaver in 1942 and has stood as an authoritative source since that time. No modern work on the Pezizales fails to cite it and, though there are some monographs for genera and some regional floras, one invariably still turns to this book when one is identifying Pezizales.

In the years since Seaver's work, the Pezizales have been reworked at the generic level and important cytological, histochemical, and developmental work has been done on the group. Several major monographs of genera have been written as well as checklists and regional reports. It is not surprising that, when using Seaver's treatment, one is often able to identify a species without having any idea of where the species belongs in modern generic systems. Seaver's treatment was a highly artificial one. I have set about annotating Seaver's nomenclature.

Modern currently accepted names for his concepts or names are provided in the list which follows. These are opinions. Certainly one can turn to Seaver's list of synonyms and find other opinions. I have tried to follow a conservative pathway and have listed binomials which for the most part are now in common usage. In a few cases some rearrangement is proposed but generic concepts are those which are found in Eckblad's (1968) revision, Rifai's (1968) treatment of the Austral-Asian Pezizales, Dennis's (1978) recent revision, or Korf's keys (1972, 1973a).

I have not tried to provide all of the synonyms but rather to fit Seaver's taxa into recognizable modern genera. This has been easier in some groups than in others as the listing which follows will amply show. Some genera have been well worked; others are woefully understudied. Still it is hoped that those using the book will find this annotation helpful.

The annotation is made up of three parts. Part I lists the name used by Seaver, the page number in North American Cup-fungi (Operculates) revised edition, and the equivalent name where known. Comments on some of the names are made in numbered notes referred to in the revised list. Those Seaver names which are underlined were listed as doubtful by Seaver. The Seaver names marked with a "+" represent names which for sundry reasons were not possible to verify in North America. Part II is an index to the revised names as listed in Part I. The page numbers refer to Seaver's book. With each generic name, reference to recent monographic work is given. Part III is a bibliography. Most recent treatments containing references to North American taxa are listed.

I wish to thank several curators who have seen to it that I had specimens for study. These are Clark T. Rogerson (NY), David Farr (BPI), John H. Haines (NYS), and Richard P. Korf (CUP). My debt to Prof. Korf is a profound one. He reviewed this manuscript, made suggestions, and gave encouragement. He provided many of the clues which lead to the solution of some of the tangles. He also got me started on discomycetes as a graduate student. This research was supported in part by National Science Foundation grant DEB 8023018 to the author.

PART I

Page	NAME USED BY SEAVER	REVISED NAME
43	Sphaerospora trechispora	Scutellinia trechispora (Berk. & Broome) Lambotte
44	S. flavovirens	Scabropezia flavovirens (Fuckel) Dissing & Pfister
45	S. perplexa	Lamprospora fide Denison (1960)
46	S. brunnea	Trichophaea brunnea (Alb. & Schw.) Batra in L. R. and S. T. Batra T. confusa (Cooke) Berthet
46	S. hinnulea	T. hinnulea (Berk. & Broome) Batra in L. R. and S. T. Batra
47	S. monilifera	T. monilifera (Berk. & Curtis) Pfister
48	Pseudoplectania vogesiaca	Pseudoplectania melaena (Fr.) Sacc. (1)
49	P. nigrella	P. nigrella (Pers.) Fuckel
50	P. fulgens	Caloscypha fulgens (Pers.) Boud.
51	Sphaerosoma hesperium	Ruhlandiella berolinensis P. Hennings
52	Boudiera areolata	Boudiera areolata Cooke & Phill.
52	B. echinulata	B. echinulata (Seaver) Seaver
53	B. marginata	Ascobolus nodulosporus Brum.
56	Lamprospora crouani	Lamprospora miniata De Not.
58	L. laetirubra	"L. laetirubra (Cooke) Lagarde"
58	L. dictydiola	L. dictydiola Boud.
59	L. areolata	L. areolata Seaver

60	L. ascoboloides	L. ascoboloides Seaver
60	L. annulata	L. annulata Seaver
61	L. spinulosa	L. spinulosa Seaver
62	L. crec'hquerault ii	L. crec'hquerault ii (Crouan & Crouan) Boud.
63	L. macrantha	L. macracantha (Boud.) Seaver
63	L. brevispinosa	L. brevispinosa Seaver
64	L. tuberculata	L. tuberculata Seaver
65	L. maireana	L. maireana Seaver
66	L. wrightii	L. wrightii (Berk. & Curtis in Berk. & Br.) Seaver
66	L. tuberculatella	L. tuberculatella Seaver
67	L. amethystina	?Pulparia amethystina (Quel.) Donadini
67	L. carbonaria	Pulvinula carbonaria (Fuckel) Boud.
68	L. haemastigma	P. convexella (P. Karst.) Pfister
69	L. constellatio	P. convexella (P. Karst.) Pfister
69	L. wisconsinensis	P. laeterubra (Rehm) Pfister
70	L. gemmea	P. archeri (Berk. & J. D. Hooker) Rifai
70	L. discoidea	P. discoidea (P. Henn. & E. Nym.) Batra
70	L. salmonicolor	P. salmonicolor (Seaver) Pfister
71	L. trachycarpa	Plicaria trachycarpa (Curr.) Fuckel
72	L. detonia	Scabropezia flavovirens (Fuckel) Dissing & Pfister
72	L. nigrans	Plicaria nigrans (Morgan) Pfister (2)

73	L. leiocarpa	Plicaria endocarpoides (Berk.) Rifai
74	L. planchonis	Pulparia planchonis (Dun. ex Boud.) Korf, J. K. Rogers, Pfister
74	L. lobata	Lamprospora lobata (Berk. & Curtis) Seaver
75	L. exasperata	Plicaria recurva (Berk.) Rifai
75	L. polytrichina	Lamprospora polytrichina (Rehm) Seaver
76	Pithya pithya	Pithya vulgaris Fuckel
77	P. lacunosa	P. vulgaris Fuckel
78	P. cupressi	P. cupressina (Batch) Fuckel (3)
79	Ascodesmis microscopica	Ascodesmis sphaerospora Obrist (4)
80	A. porcina	A. porcina Seaver
82	Ascobolus stercorarius	Ascobolus furfuraceus (Pers.) W. J. Hooke
83	A. immersus	A. immersus (Pers.) Pers.
83	A. glaber	Saccobolus glaber (Pers.) Lambotte
84	A. winteri	A. elegans J. Klein
85	A. americanus	A. amoenus Oudemans
85	A. leveillei	(5)
86	A. viridulus	A. crenulatus P. Karst.
86	A. candidus	A. aglaosporus Heimerl
87	A. magnificus	A. scatigenus (Berk.) Brumm.
87	A. carbonarius	A. carbonarius P. Karst.
88	A. geophilus	A. geophilus Seaver
89	A. subglobosus	A. subglobosus Seaver
89	A. albinus	A. albinus
90	A. xylophilus	A. xylophilus Seaver

90	A. striisporus	A. foliicola Berk. & Broome
91	A. epimyces	A. epimyces (Cooke) Seaver
92	A. atrofuscus	A. carbinarius P. Karst.
92	A. viridis	(6)
92	A. purpurascens	(7)
92	A. brunneus	(8)
92	A. cubensis	A. cubensis Berk. & Curtis
92	A. vinosus	(9)
92	A. major	A. scatigenus (Berk.) Brumm.
92	A. conglomeratus	Angelina rufescens (Schw.) Inby fide Seaver (not a member of the Pezizales).
92	A. trifolii	Pseudopeziza trifolii (not a member of the Pezizales)
92	A. pusillus	A. pusillus Boud. (10)
93	Saccobolus kerverni	S. glaber (Pers.) Lambotte
94	S. portoricensis	S. portoricensis Seaver
94	S. violascens	S. versicolor (P. Karst.) P. Karst.
95	S. depauperatus	S. depauperatus (Berk. & Broome) E. C. Hansen
95	S. globuliferellus	S. globuliferellus Seaver
96	S. obscurus	(11)
97	Aleuria aurantia	Aleuria aurantia (Pers.) Fuckel
98	A. wisconsinensis	A. aurantia
98	A. cestrica	A. cestrica (Ellis & Everh.) Seaver
99	A. bicucullata	A. bicucullata Boud.
99	A. rhenana	A. rhenana Fuckel

100	A. rutilans	Leucoscypha rutilans (Fr.) Dennis & Rifai
101	Aleurina atrovinosa	Peziza atrovinosa Gerard
102	A. aquehongensis	(12)
103	Melastiza charteri [sic]	Melastiza chateri (W. G. Smith) Boud.
104	M. asperrima	Scutellinia asperrima (Ell. & Everh. ex Seaver) Le Gal
104	Melastiza pennsylvanica	S. pennsylvanica (Seaver) Denison
106	Psilopezia nummularia	(13)
106	P. hydrophila	Pachyella hydrophila (Peck ex Sacc.) Pfister
107	P. deligata	Psilopezia deligata (Peck) Seaver
107	P. trachyspora	Pachyella adnata (Berk. & Curtis) Pfister
108	P. flavida	Acervus flavidus (Berk. & Curtis) Pfister
108	P. aquatica	Miladina lechithina (Cooke) Svrček
109	P. mirabilis	Aleurodiscus, a Basidiomycete
109	Pyronema omphalodes	Pyronema omphalodes (Bull.) Fuckel
110	P. leucobasis	Psilopezia deligata (Peck) Seaver
112	Ascophanus Holmskjoldii	Thecotheus? cinereus (Crouan & Crouan) Chenantais
112	A. isabellinus	T. cinereus (Crouan & Crouan) Chenantais
113	A. sarcobius	Iodophanus sarcobius (Boud.) Kimbr.
113	A. bermudensis	I. bermudensis (Seaver) Kimbr.

114	A. vicinus	(14)
114	A. lacteus	Coprotus lacteus (Cooke & Phill.) Kimbr., Luck-Allen, and Cain
114	A. argenteus	Coprotus argenteus (Curr.) Kimbr., Luck-Allen, and Cain
115	A. aurora	C. aurora (Crouan & Crouan) Kimbr., Luck-Allen and Cain
115	A. carneus	Iodophanus carneus (Pers.) Korf Peziza humosoides in syn. = immature Iodophanus
116	A. granulatus	Coprobia granulata (Bull.) Boud.
117	A. granuliformis	Coprotus granuliformis (Crouan & Crouan) Kimbr.
117	A. ochraceus	C. ochraceus (Crouan & Crouan) Larsen
118	A. gallinaceus	(15)
118	A. cinereus	Thecotheus cinereus (Crouan & Crouan) Chenantais
119	A. tetraonalis	(16)
120	A. lilacinus Cooke[+]	
120	A. cinerellus (Karst.) Speg.[+]	
120	A. microsporus	(17)
121	A. cesatii	(18)
121	A. glaucellus	Coprotus glaucellus (Rehm) Kimbr.
124	Humarina axillaris	Octospora axillaris (Nees) Moser
124	H. ithacaensis	(19)
124	H. pallens	Thecotheus pallens (Boud.) Kimbr. (20)

125	H. clausa+	
125	H. testacea	Iodophanus testaceus (Moug. in Fr.) Korf
127	H. orthotricha	Octospora orthotricha (Cooke & Ell.) Khare & Tewari
127	H. Clementsii+	Octospora sp.
127	H. rubens	O. rubens (Boud.) Moser in Gams
128	H. convexula+	Octospora sp.
128	H. lilacina	(21)
129	H. leucoloma	Octospora leucoloma Hedwig and O. Humosa (Fr.) Dennis included in synonymy
130	H. araneosa+	Geopyxis carbonaria
130	H. semiimmersa	O. semiimmersa (Karst.) Khare & Tewari
131	H. ochroleuca+	
131	H. rufa+	
132	H. wisconsinensis+	
132	H. nectriodes	Iodophanus testaceus (Moug. in Fr.) Korf (22)
132	H. deligata	I. testaceus (23)
133	H. glumarum+	
133	H. peckii	Octospora peckii (House) Khare & Tewari
134	H. phyllogena	(24)
134	H. tetraspora	Byssonectria tetraspora (Fuckel) Korf
134	H. permuda [sic]	B. fusispora (Berk.) Rogerson and Korf in Korf
135	H. ollaris+	
136	H. aggregata	Byssonectria aggregata (Berk. & Broome) Rogerson & Korf

136	H. fusispora	B. fusispora (Berk.) Rogerson and Korf in Korf
137	H. coccinea	Octospora coccinea (Crouan & Crouan) Brumm.
137	H. cookeina	Hymenoscyphus sp.
138	H. gerardi	Peziza gerardi Cooke and Gerard (25)
138	H. purpurea	
139	H. hepatica	Fimaria hepatica (Batsch) Brumm.
139	H. trachyderma+	
140	Humaria bella	Nanoscypha bella (Berk. & Curtis) Pfister
140	H. scatigena	Ascobolus scatigenus (Berk. & Curtis) Brumm.
140	H. salmonicolor+	
140	H. olivatra+	an inoperculate discomycete
140	H. fuscocarpa+	
140	H. vitigena+	
140	H. subcrenulata+	
140	H. secreta+	
140	H. groenlandica+	
141	H. microspora	Acervus epispartius (Berk. & Curtis) Pfister
141	H. xanthomela americana+	
141	Peziza elachroa	Peziza elachroa Berk. & Curtis
141	Humaria subgranulata	Iodophanus subgranulatus (Berk. & Curtis) Pfister
141	Pseudombrophila deerata	Pseudombrophila deerata (Karst.) Seaver
142	Streptotheca crouani	Ascozonus crouani (Renny) Schroet.
143	S. woolhopensis	A. woolhopensis (Berk. & Broome) Boud.

143	S. obscura	Thelebolus obscurus (Seaver) Eckblad
144	Ryparobius sexdecimi-sporus	Coprotus sexdecimisporus (Crouan & Crouan) Kimbr.
145	R. crustaceus	Thelebolus crustaceus (Fuckel) Kimbr.
145	R. hyalinellus	Thelebolus sp.
146	R. polysporus+	Thelebolus sp.
147	R. monascus	Thelebolus stercoreus (Tode) Fr.
147	R. niveus	Coprotus niveus (Fuckel) Kimbrough, Luck-Allen and Cain
148	Thecotheus pelletieri	Thecotheus pelletieri (Crouan & Crouan) Boud.
149	Sepultaria arenicola	Geopora sepulta (Fr.) Korf & Burdsall
150	S. longii	G. longii (Seaver) Burdsall & Korf
151	S. arenosa	G. arenosa (Fuckel) Ahmad
152	S. aurantia	Scutellinia aurantia (Clements) Waraitch (26)
152	S. pellita	Geopora pellita (Cooke & Peck) T. Schumacher
153	Pseudopithyella minuscula	Pseudopithyella minuscula (Boud. & Torrend) Seaver
154	Perrotia flammea	An inoperculate disco-mycete
155	Lasiobolus equinus	Lasiobolus equinus (Müll.) P. Karst.
156	L. ruber	L. ruber (Quel.) Sacc.
159	Patella scutellata	Scutellinia scutellata (L) Lambotte
160	P. piliseta+	

160	P. cubensis	Scutellinia cubensis (Berk. & Curtis) Gamundi S. texensis (Berk. & Curtis) Le Gal
161	P. umbrorum	S. umbrorum (Fr.) Lambotte
162	P. lusatiae	S. lusatiae (Cooke) O. Kuntze
162	P. miniata+	
163	P. albocincta	Leucoscypha vivida (Nyl.) Dennis
163	P. ovilla	L. ovilla (Peck) Harmaja
164	P. hetieri	L. hetieri (Boud.) Rifai
165	P. ricciophila	(27)
165	P. punicea+	
166	P. gilva	Tricharina gilva (Boud.) Eckblad
166	P. setosa	Scutellinia setosa (Nees) Kuntze
167	P. sequoiae	(28)
167	P. melaloma	Anthracobia melaloma (Albertini & Schw.) Boud.
168	P. crucipila	Cheilymenia crucipila (Cooke & Phill.) Le Gal in Denison
169	P. stercorea	C. ciliata (Bull.) Maas
170	P. theleboloides	C. theleboloides (Albertini & Schw.) Boud.
171	P. coprinaria	C. coprinaria (Cooke) Boud. (30)
172	P. maculosa+	
172	P. pulcherrima	C. pulcherrima (Crouan & Crouan) Boud.
173	P. raripila	C. raripila (Phill.) Dennis

173	P. fimetaria+	
174	P. paludosa	Trichophaea paludosa Boud.
174	P. tuberculata	T. tuberculata (Seaver) Kanouse
175	P. albida	Humaria hemispherica (Wigg.) Fuckel
176	P. gregaria	Trichophaea gregaria (Rehm) Boud.
177	P. irregularis+	
177	P. abundans	T. abundans (P. Karst.) Boud.
178	P. erinaceus	Scutellinia erinaceus (Schw.) Kuntze
178	P. albospadicea	Trichophaea albospadicea (Grev.) Boud. -- a species complex
179	P. pygmaea	Trichophaea pygmaea (Clements) Waraitch (31)
179	Lachnea vitellina	Cheilymenia vitellina (Pers.) Dennis
179	L. crispata	Phillipsia crispata (Berk. & Curtis) Le Gal
180	Neottiella spraguei	Peziza spraguei Berk. & Curtis
180	Lachnea livida+	
180	Neottiella albotecta	a lichen
180	Lachnea hirta	Scutellinia hirta (Schum.) Lamb.
180	Neottiella sericeovillosa+	
180	Lachnea fissilis+	
180	Neottiella callichroa	Octospora callichroa (Boud.) Arpin
180	Neottiopezis macrospora+	
181	Wynnea gigantea	Wynnea gigantea Berk. & Curtis
181	W. americana	W. americana Thaxter

182	Phillipsia domingensis	Phillipsia domingensis Berk.
183	P. gigantea	P. domingensis
183	P. chardoniana	P. domingensis
184	P. dochmia	Aurophora dochmia (Berk. & Curtis) Rifai
185	Scodellina leporina	Otidea leporina (Fr.) Fuckel
185	S. auricula	Wynnella silvicola (Berk. in Sacc.) Nannf.
186	S. grandis	Otidea grandis (Pers.) Rehm
187	Otidea obtecta+	
187	Cookeina tricholoma	Cookeina tricholoma (Mont.) Kuntze
188	C. sulcipes	C. sulcipes (Berk.) Kuntze
189	C. tetraspora	Nanoscypha tetraspora (Seaver) Denison
190	C. colensoi	C. venezuelae (Berk. & Curtis) Le Gal (Denison 1967)
191	Plectania coccinea	Sarcoscypha coccinea (Scop.) Sacc.
192	P. floccosa	Microstoma floccosum (Schw.) Raitviir
193	P. occidentalis	Sarcoscypha occidentalis (Schw.) Sacc.
193	P. hiemalis	Microstoma protractum (Fr.) Kanouse
194	Sarcoscypha roseotincta+	
195	Bulgaria globosa	Sarcosoma globosum (Fr.) Casp. in Rehm
196	B. rufa	Galiella rufa (Schw.) Nannf. & Korf
197	B. melastoma	Plectania melastoma (Sow.) Fuckel

198	Peziza aurantiopsis	Wolfina aurantiopsis (Ellis) Eckblad
199	Urnula craterium	Urnula craterium (Schw.) Fr.
200	U. geaster	Chorioactis geaster (Peck) Eckblad
200	U. terrestris+	
202	Paxina acetabulum	Helvella acetabulum (L.) Quel.
203	P. macropus	H. macropus (Pers.) P. Karst.
203	P. platypodia	H. queletii Bres.
204	P. leucomelas	H. leucomelas (Pers.) Nannf.
204	P. sulcata	H. solitaris (P. Karst.) P. Karst.
205	P. barlae	H. acetabulum (L.) Quel.
205	P. hispida	H. villosa (Hedw.) Dissing & Nannf.
206	P. subclavipes	H. macropus (Pers.) P. Karst.
207	P. dupainii	H. queleti Bres.
208	P. corium	H. corium (Weberb.) Massee
208	P. nigrella	Plectania nannfeldtii Korf
209	P. semitosta	Jafnea semitosta (Berk. & Curtis) Korf
210	P. fusicarpa	J. fusicarpa (Gerard) Korf
211	P. olivacea+	
211	Macropodia schweinitzii+	
211	Plectania rimosa Peck+	
212	Geopyxis cupularis	Tarzetta cupularis (L.) Korf and J. K. Rogers

213	G. bronca	T. bronca (Peck) Korf & J. K. Rogers
213	G. catinus	T. catinus (Holmsk.) Korf and J. K. Rogers
214	G. vulcanalis	Geopyxis vulcanalis (Peck) Sacc.
214	G. nebulosa[+]	
214	G. nebulosoides[+]	
214	G. cinerascens[+]	
214	G. verruculosa	Helvella acetabulum (L.) Quel.
215	G. Hicksii[+]	
215	Rhizina inflata	Rhizina undulata Fr.
216	R. spongiosa	Galiella spongiosa (Berk. & Curtis) Pfister
216	Discina ancilis	Gyromitra perlata (Fr.) Harmaja
217	D. apiculata	Peziza apiculata Cooke
218	D. convoluta	Gyromitra leucoxantha (Bres.) Harmaja
218	D. leucoxantha	G. leucoxantha (Bres.) Harmaja
221	Peziza badia	Peziza badio-confusa Korf (32)
222	P. brunneoatra	P. brunneoatra Desmaz.
222	P. spissa	P. spissa Berk.
223	P. succosa	P. succosa Berk.
224	P. pustulata	P. petersii Berk.
224	P. emileia	P. emileia Cooke
225	P. melaleuca	Gyromitra melaleuca (Bres.) Donadini
225	P. melaleucoides	G. melaleucoides (Seaver) Pfister
226	P. violacea	Peziza praetervisa Bres. (33)

227	P. griseorosea	P. griseorosea Gerard
227	P. proteana	P. proteana (Boud.) Seaver
228	P. concentrica	P. concentrica Seaver
228	P. abietina	Otidea propinquata (Karst.) Harmaja
229	P. venosa	Disciotis venosa (Pers.) Boud.
230	P. domiciliana	Peziza domiciliana Cooke
231	P. repanda	P. repanda Pers.
231	P. vesiculosa	P. vesiculosa Bull.
232	P. fimeti	P. fimeti (Fuckel) Seaver
233	P. sylvestris	P. sylvestris (Boud.) Sacc. & Trott.
233	P. clypeata	Pachyella clypeata (Schw.) Le Gal
234	P. caeruleomaculata	Peziza caeruleomaculata Rehm (34)
234	Humaria lacteocinerea+	
234	Peziza brunneovinosa	Peziza michelii (Boud.) Dennis
234	P. chrysopela+	
235	P. roseolilacina+	
234	P. caligans+	
235	P. irrorata	P. irrorata Berk. & Curtis
235	P. repandoides	P. repandoides (Rehm) Sacc. & Trott.
235	P. irregularis+	
235	P. convoluta	P. vesiculosa Bull.
235	Sarcosphaera coronaria	Sarcosphaera coronaria (Jacq.) Schroet. in Cohn
237	Morchella crassipes	Morcella crassipes (Vent.) Pers.
238	M. esculenta	M. esculenta (L.) Pers.

239	M. conica	M. conica Pers.
240	M. deliciosa	M. deliciosa Fr.
240	M. angusticeps	M. angusticeps Peck
241	M. hybrida	M. semilibera DC.
242	Durandiomyces phillipsii	Peziza proteana forma sparassoides (Boud.) Korf
243	Verpa conica	Verpa conica (Mull.) Swartz
244	V. bohemica	V. bohemica (Kromb.) Schroet in Cohn
245	V. atroalba+	
245	V. perpusilla+	
246	Elvela mitra	Helvella lacunosa Afzel.
247	E. crispa	H. crispa (Scop.) Fr.
247	E. palustris	H. lacunosa Afzel
248	E. atra	H. atra Oed.
249	E. elastica	H. elastica Bull.
249	E. klotzschiana	H. elastica Bull.
250	E. adhaerens	H. elastica Bull.
250	E. californica	Gyromitra californica (Phill.) Raitviir
251	E. umbraculiformis	G. californica (Phill.) Raitviir
251	E. infula	G. infula (Schaeff.) Quel.
252	E. brevissima+	
253	E. albipes	Helvella leucopus Pers.
253	E. caroliniana	Gyromitra caroliniana (Fr.) Fr.
254	E. underwoodii	G. brunnea Underw.
254	E. sphaerospora	Pseudorhizina sphaerospora (Peck) Pouz.
255	Underwoodia columnaris	Underwoodia columnaris Peck

New taxa listed from the revised section

304	Boudiera walkerae	Boudiera walkerae Seaver
306	Lamprospora sphagicola	Lamprospora sphagicola Seaver
306	P. pyrophila	?Pulvinula archeri (Berk. in Hook.) Rifai
307	Cubonia bulbifera	
311	Humarina waterstonii	Nanoscypha waterstonii (Seaver) Pfister (35)
314	Patella contradicta	Trichophaea contradicta (Seaver) H. J. Larsen
315	P. michiganensis	Cheilymenia coprinaria (Cooke) Boud.
318	Sarcoscypha imperialis	Sowerbyella imperialis (Peck) Korf
321	Wolfina aurantiopsis	Wolfina aurantiopsis (Ellis) Eckblad
325	Paxina compressa	Helvella compressa (Snyder) Weber
326	P. recurva	Gyromitra melaleucoides (Seaver) Pfister
332	Peziza pseudoclypeata	Pachyella adnata (Berk. & Curtis) Pfister
332	P. waltersii	Peziza waltersii Seaver
333	Sarcosphaera ammophila	Peziza ammophila Dur. & Lév.
337	Daleomyces phillipsii	Peziza proteana forma sparassoides (Boud.) Korf

NOTES REFERRED TO IN PART I

(1) This species is still widely known as Pseudoplectania vogesiaca. Though the name Peziza vogesiaca was proposed in 1818, Fries in 1822 did not use it but rather proposed Peziza melaena and listed P. vogesiaca as a synonym. Under the ICBN, Fries's name should be used. Saccardo and Boudier treated the species in the genus Melascypha.

(2) Plicaria nigrans (Morgan) Pfister comb. nov. ≡ Peziza nigrans Morgan, J. Cinn. Soc. Nat. Hist. 18: 43. 1895. The Plicarias in North America have never been completely worked out. Lamprospora nigrans is a distinctive Plicaria. The asci and hymenium blue faintly, the paraphyses are agglutinated, the spores are heavily warted and are 7-8 µm.

(3) Pithya cupressina and P. vulgaris have been considered identical by many recent authors but Denison (1972) thought them distinct.

(4) Ascodesmis microscopica (Crouan & Crouan) Seaver was based on material with sphaerical spores which Obrist (1961) renamed A. sphaerospora.

(5) According to van Brummelen's (1967) study of type specimens, Ascobolus leveillei is correctly named A. boudieri Quél. but it is known only from Europe. It is not clear to which species Seaver was referring.

(6) Ascobolus viridis, according to van Brummelen (1967), has not been recorded from North America. This was also Seaver's decision when he redescribed the species as A. geophilous, an accepted species.

(7) This may refer to a misprint of "furfuraceus."

(8) According to van Brummelen's (1967) study of the type specimen, this is a species of Rhyparobius. There is no report of the species from North America.

(9) No North American collections are definitely known under this name.

(10) van Brummelen (1967) has studied the Dodge specimen referred to by Seaver and finds it to be Ascobolus pusillus.

It is the only collection of this species which van Brummelen reported from North America.

(11) Seaver reported the name from Clements' Crypto. Form. Colo. no. 301 but excluded it because no specimens could be found. Van Brummelen (1967) accepts the species but lists no North American collections.

(12) This and several other species are very like Peziza badia. The apothecia are dark colored and the spores are reticulate. The detailed study necessary to properly place taxa in this complex has not yet been done.

(13) Psilopezia nummularia is known from North America but the description Seaver gives seems to refer to Pachyella babingtonii, a name listed by Seaver among the synonyms but considered distinct by Pfister (1973a; 1973b).

(14) The specimen upon which Seaver based his conclusions does not seem to have been recently examined. Van Brummelen (1967) suggests that this is close to Ascophanus granuliformis (= Coprotus granuliformis).

(15) The type collection was examined but no ascocarps could be found.

(16) Type material was examined. The species is very close to Peziza fimeti; it differs in the habitat, partridge or grouse dung, and the ascospore size. The ascospores are 16-18 µm in length, a range which is slightly larger than that of Peziza fimeti.

(17) Type material has not been seen. Van Brummelen (1967) states that this is a very common species of "Ascophanus."

(18) Van Brummelen (1967) says this is Ascophanus microsporus (Berk. & Broome) E. C. Hansen.

(19) Rifai (1968) briefly discussed this taxon, which has been variously placed in the Pezizales, he writes, "Neottiella crozalsiana, Humaria ithacaensis and Peziza ricciae differ from the other species of Leucoscypha in their small (usually less than 1.3 µm diam.) apothecia, in the poorly developed medullary excipulum and in the possession of vegetative mycelium of a mildew, which is probably due to their peculiar habitat, growing directly on hepatics rather than among mosses." Rifai suggests a separate genus. North

American materials need to be critically examined. I do not agree with the inclusion of this species in Octospora as done by Khare (1975).

(20) Kimbrough (1969) stated that Thecotheus pallens was not known in North America but he had overlooked Seaver's report of it under the genus Humarina. The specimen in NY which was examined agrees with Boudier's original description. The large spores which reach a length of more than 40 µm and unusual habitat, on soil among mosses, makes this a distinctive species. The habitat is unusual for a Thecotheus which has been known to occur primarily on dung and occasionally on water soaked wood; T. phycophilus Pfister is similar (see Pfister 1981).

(21) Type material has been examined but is fragmentary. No conclusive placement could be made.

(22) I have examined Seaver's type material and found apothecia of Iodophanus testaceus.

(23) See Pfister (1979c)

(24) This is a member of the Sarcoscyphaceae, perhaps belonging to an undescribed genus. Khare and Tewari (1978) placed it in Octospora, a position with which I cannot agree.

(25) Material from the type locality shows asci which are faintly J+. Little material is available but based on Seaver's slide and description, this is most likely a small species of Peziza.

(26) I have not examined the material of Clements' type which was apparently not examined by Waraitch (1977) when he combined Clements' name in Scutellina.

(27) See note 21. Seaver's name is a later synonym being predated by Peziza ricciae Crouan and Crouan.

(28) Denison (1959) could not properly place this species.

(29) There is a difference of opinion; see Maas Geestranus (1969).

(30) Cheilymenia dalmeniensis placed by Seaver in synonymy has been recognized as a distinct species.

(31) Material has been examined but resolution of generic placement remains. It differs from Trichophaea.

(32) Both Peziza badia and P. badio-confusa exist in North America. Elliot & Kaufert (1974) discuss these and cite various collections.

(33) Peziza praetervisa has lightly ornamented spores as described by Seaver for P. violacea. The spores of P. violacea are completely smooth. Though P. violacea exists in North America, it is infrequently collected. Most collections under that name are P. praetervisa.

(34) See Pfister (1979b)

(35) Khare & Tawari (1978) included this species in Octospora, a view with which I cannot agree.

PART II

Morchellaceae

Disciotis
D. venosa p. 229

Morchella
M. angusticeps p. 240
M. conica p. 239
M. crassipes p. 237
M. deliciosa p. 240
M. esculenta p. 238
M. hybrida p. 241

Verpa
V. bohemica p. 244
V. conica p. 243

Helvellaceae

Gyromitra ref. Kempton & Wells (1973) McKnight (1969, 1971, 1973) and Pfister (1980).
G. brunnea p. 254
G. californica p. 251
G. carolinae p. 253
G. infula p. 251
G. leucoxantha p. 218
G. melaleuca p. 225
G. melaleucoides p. 225, 326
G. perlata p. 216

Helvella ref. Weber (1972, 1975) and Dissing (1966) Dissing & Lange (1967) Kempton & Wells (1970).
H. acetabulum p. 202, 205, 214
H. atra p. 248
H. compressa p. 325
H. corium p. 208
H. crispa p. 247
H. elastica p. 249, 250
H. lacunosa p. 246, 247
H. leucomelas p. 204
H. leucopus p. 253
H. macropus p. 203, 206
H. queletii p. 203, 207
H. solitaris p. 204
H. villosa

Pseudorhizina
P. sphaerospora p. 254

Rhizina
R. undulata p. 215

Underwoodia
U. columnaris

Wynnella
W. silvicola p. 185

Ascobolaceae

Ascobolus ref. Van Brummelen (1967)
A. aglaosporus p. 86
A. albinus p. 89
A. amoenus p. 85
A. carbonarius p. 87, 92
A. crenulatus p. 86
A. cubensis p. 92
A. elegans p. 84
A. epimyces p. 91
A. follicola p. 90
A. furfuraceus p. 82
A. geophilus p. 88
A. immersus p. 83
A. nodulosporus p. 53
A. pusillus p. 92
A. scatigluses p. 87, 92, 140
A. subglobosus p. 89
A. xylophilus p. 90

Saccobolus ref. Van Brummelen (1967)
S. depauperatus p. 95
S. glaber p. 83, 93
S. globuliferellus p. 95

S. obscurus p. 96
S. portoricensis p. 94
S. versicolor p. 94

Pezizaceae

Boudiera ref. Dissing & Schumacher (1979) 1979)
B. areolata p. 52
B. echinulata p. 52
B. walkerae p. 304

Iodophanus ref. Kimbrough, Luck-Allen, and Cain (1969)
I. bermudensis p. 113
I. carneus p. 115
I. sarcobius p. 113
I. testaceus p. 125, 132
I. subgranulatus p. 141

Pachyella ref. Pfister (1973b)
P. adnata p. 107, 332
P. babingtonii p. 106
P. clypeata p. 233
P. hydrophila p. 106

Peziza
P. ammophila p. 333
P. apiculata p. 217
P. atrovinosa p. 101
P. badio-confusa p. 101
P. brunneoatra p. 222
P. caeruleomaculata p. 234
P. concentrica p. 228
P. domiciliana p. 230
P. elachroa p. 141
P. emileia p. 224
P. fimeti p. 232
P. gerardii p. 138
P. grislorosea p. 227
P. irrorata p. 235
P. michelii p. 234
P. petersii p. 224
P. praetervisa p. 226
P. proteana p. 227
var. sparassoides p. 242, 337
P. repanda p. 231
P. repandoides p. 235
P. spissa p. 222
P. spraguei p. 180
P. succosa p. 223
P. sylvestris p. 233
P. vesiculosa p. 231
P. waltersii p. 332

Plicaria
P. endocarpoides p. 73
P. nigrans p. 72
P. recurva p. 75
P. trachycarpa p. 71

Ruhlandiella ref. Dissing and Korf (1980)
R. berolinensis p. 51

Sarcosphaera
S. crassa p. 235

Scabropezia ref. Dissing and Pfister (1981)
S. flavovirens p. 44, 72

Thecotheus ref. Kimbrough (1969)
T. cinereus p. 112, 118
T. pelleturi p. 148
T. pallens p. 124

Acervus ref. Pfister (1975a)
A. epispartius p. 141
A. flavidus p. 108

Aleuria
A. aurantia p. 97, 98
A. bicucullata p. 99
A. cestrica p. 98
A. rhenana p. 99

Anthracobia
A. melaloma p. 167

Ascodesmis ref. Obrist (1961)
A. porcina
A. sphaerospora

Ascozonus
Seaver treated two species:
A. crouani p. 142
A. woolhopensis p. 143

Byssonectria ref. Dennis & Itzerott (1973) under the name Inermisia.
B. aggregata p. 136
B. fusispora p. 134, 136
B. tetraspora p. 134

Caloscypha
C. fulgens p. 50

Cheilymenia ref. Denison (1964)
C. ciliata p. 169
C. coprinaria p. 171, 315
C. crucipila p. 168
C. pulcherrima p. 172
C. raripila p. 173
C. theleboloides p. 170
C. vitellina p. 179

Coprobia
C. granulata p. 116

Coprotus ref. Kimbrough, Luck-Allen and Cain (1972)
C. argenteus p. 114
C. aurora p. 115
C. glaucellus p. 121
C. granuliformis p. 117
C. lacteus p. 114
C. niveus p. 147
C. ochraceus p. 117
C. sexdecmisporus p. 144

Fimaria ref. Van Brummelen (1962)
F. hepatica (p. 139 only)

Geopora ref. Burdsall (1968)
G. arenosa p. 151
G. longii p. 150
G. pellita p. 152
G. sepulta p. 149

Geopyxis
G. vulcanalis p. 214

Humaria
H. hemispherica p. 175

Jafnea ref. Korf (1960)
J. fusicarpa p. 210
J. semitosta p. 209

Lamprospora
L. annulata p. 60
L. areolata p. 59
L. ascoboloides p. 60
L. brevispinosa p. 63
L. crec'hqueraultii p. 62
L. dictyiola p. 58
L. laetirubra p. 58
L. lobata p. 74
L. macrantha p. 63
L. maireana p. 65
L. miniata p. 56
L. polytrichina p. 75
L. sphagnicola p. 306
L. spinulosa p. 61
L. tuberculata p. 64
L. tuberculatella p. 66
L. wrightii p. 66

Lasiobolus ref. Bezerra & Kimbrough (1975)
L. equinus p. 155
L. ruber p. 156

Leucoscypha
L. albocincta p. 163
L. hetieri p. 164
L. ovilla p. 163
L. rutilans p. 100

Melastiza ref. Lassueur (1980)
M. chateri p. 103

Miladina ref. Pfister & Korf (1974)
M. lechithina p. 108

Octospora ref. Khare & Tewari (1978), Dennis and Itzerott (1973).
O. axillaris p. 124

O. callichroa p. 180
O. coccinea p. 137
O. leucoloma p. 129
O. orthotricha p. 127
O. peckii p. 133
O. rubens p. 127
O. semi-immersa p. 130

Otidea ref. Kanouse (1950)
O. grandis p. 186
O. leporina p. 185
O. propinquata p. 228

Pseudombrophila
P. deerata p. 141

Psilopezia ref. Pfister (1973a)
P. deligata p. 107, 110

Pulparia ref. Donadini (1976)
P. amethystina p. 67
P. planchonis p. 74

Pulvinula ref. Pfister (1975b)
P. archeri p. 70
P. carbonaria p. 67
P. convexella p. 68
P. discoidea p. 70
P. laeterubra p. 69
P. slamonicolor p. 71

Pyronema ref. Moore & Korf (1963)
P. omphalodes p. 109

Scutellinia ref. Denison (1959)
S. asperrima p. 104
S. aurantia p. 152
S. cubensis p. 160
S. erinaceous p. 178
S. hirta p. 180
S. lusatiae p. 162
S. pennsylvanica p. 104
S. scutellata p. 159
S. setosa p. 166
S. texensis p. 160
S. trechispora p. 43
S. umbrorum p. 161

Sowerbyella
S. imperialis p. 318

Tarzetta
T. bronca p. 213
T. catinus p. 213
T. cupularis p. 212

Thelebolus
T. obscurus p. 143
T. stercoreus p. 147

Tricharia
T. gilva p. 166

Trichophaea ref. Kanouse (1958)
T. abundans p. 177
T. brunnea p. 46
T. contradicta p. 314
T. gregaria p. 176
T. hinnulea p. 46
T. monilifera p. 47
T. paludosa p. 174
T. pygmaea p. 179
T. tuberculata p. 174
T. woolhopeia p. 178

Sarcosomataceae

Chorioactis
C. geaster p. 200

Galiella
G. rufa p. 196
G. spongiosa p. 216

Plectania ref. Korf (1956a), Paden & Tylutki (1969)
P. melastoma p. 197
P. nannfeldtii p. 208

Pseudoplectania
P. melaena p. 48
P. nigrella p. 49

Sarcosoma
S. globosum p. 195

Urnula ref. Kempton & Wells (1974)
U. craterium p. 199

Wolfina
W. aurantiopsis p. 198, 321

Sarcoscyphaceae

Aurophora
A. dochmia p. 184

Cookeina ref. Denison (1967)
C. colensoi p. 190
C. sulcipes p. 188
C. tricholoma p. 187
C. venezuelae p. 190

Microstoma ref. Kanouse (1949)
M. floccosum p. 193
M. protractum p. 193

Nanoscypha ref. Denison (1972)
N. bella p. 140
N. tetraspora p. 189
N. watersonii p. 311

Phillipsia ref. Denison (1969)
P. crispata p. 179
P. domingensis p. 182, 183

Pithya ref. Denison (1972)
P. cupressina p. 78
P. vulgaris p. 76, 77

Pseudopithyella
P. minuscula p. 153

Sarcoscypha ref. Denison (1972)
S. coccinea p. 191
S. occidentalis p. 193

Wynnea ref. Pfister (1979a)
W. americana p. 181
W. gigantea p. 181

PART III

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